

## Pinus ponderosa / Juniperus communis Woodland

COMMON NAME	Ponderosa Pine / Common Juniper Woodland
SYNONYM	Ponderosa Pine / Common Juniper Woodland
PHYSIOGNOMIC CLASS	Woodland (II)
PHYSIOGNOMIC SUBCLASS	Evergreen woodland (II.A)
PHYSIOGNOMIC GROUP	Temperate or subpolar needle-leaved evergreen woodland (II.A.4)
PHYSIOGNOMIC SUBGROUP	Natural/semi-natural (II.A.4.N)
FORMATION	Rounded-crowned temperate or subpolar needle-leaved evergreen woodland (II.A.4.N.a.)
ALLIANCE	<i>Pinus ponderosa</i> Woodland Alliance

CLASSIFICATION CONFIDENCE LEVEL 2

USFWS WETLAND SYSTEM Upland

### RANGE

#### Globally

This community is found in eastern Montana, the Bighorn Mountains in northern Wyoming and the Black Hills of western South Dakota and eastern Wyoming.

#### Devils Tower National Monument

This vegetation type was observed in the area of sandstone canyons in the southwest part of the park. *Pinus ponderosa* and *Juniperus communis* occur together elsewhere, but in these situations, *J. communis* is not as abundant.

### ENVIRONMENTAL DESCRIPTION

#### Globally

This community is most often found on moderate north and west facing slopes (Hansen and Hoffman 1987, Hoffman and Alexander 1987, Hoffman and Alexander 1976). The soils are shallow and loamy.

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This community was found on sandy soils near sandstone outcrops on moderately steep slopes (16 - 22 degrees) with northerly aspects.

### MOST ABUNDANT SPECIES

#### Globally

<u>Strata</u>	<u>Species</u>
Tree canopy	<i>Pinus ponderosa</i>
Short shrub	<i>Juniperus communis</i>
Herbaceous	<i>Carex inops</i> ssp. <i>heliophila</i> , <i>Schizachyrium scoparium</i>

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<u>Strata</u>	<u>Species</u>
Tree canopy	<i>Pinus ponderosa</i>
Subcanopy	<i>Pinus ponderosa</i> , <i>Juniperus scopulorum</i>
Short shrub	<i>Juniperus communis</i>

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DIAGNOSTIC SPECIES

*Globally*

*Pinus ponderosa*, *Juniperus communis*, *Mahonia repens*, *Achillea millefolium*

*Devils Tower National Monument*

*Pinus ponderosa*, *Juniperus communis*

VEGETATION DESCRIPTION

*Globally*

This community is dominated by *Pinus ponderosa* in the overstory. Other tree species that may be present are *Picea glauca* and *Populus tremuloides*. The canopy is usually moderately closed but can become nearly closed in stands that are not disturbed for long periods. There is a prominent low shrub layer whose most abundant component is *Juniperus communis*. This species covered an average of 25% (range of 4-42%) in 7 stands in the Black Hills of South Dakota and Wyoming (Hoffman and Alexander 1987). Total average cover by the shrub layer was 51% and by the herb layer was 8%. Other shrub species found in this community across its range are *Arctostaphylos uva-ursi*, *Mahonia repens*, *Spiraea betulifolia*, and *Symphoricarpos albus*. Typical herbaceous species are *Achillea millefolium*, *Carex inops* ssp. *heliophila*, *Schizachyrium scoparium*, *Fragaria* spp., and *Lathyrus ochroleucus* (McAdams et al. 1998).

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This community is dominated by *Pinus ponderosa*. Two mappable stands were found. Canopy and subcanopy coverages each ranged from 10 to 50%. *Juniperus scopulorum* was a consistent component of the subcanopy. *J. communis* dominated the short shrub stratum, with coverage as high as 25%. *Mahonia repens* occurred consistently and was sometimes common. *Carex inops* ssp. *heliophila* and *Nassella viridula* were the most common herbaceous species.

OTHER NOTEWORTHY SPECIES

CONSERVATION RANK G4?

RANK JUSTIFICATION

DATABASE CODE C EGL000859

COMMENTS

*Globally*

The canopy in this type is usually moderately closed but can become nearly closed in undisturbed stands (i.e., where the natural disturbance regime has been disrupted).

The stands used to document the *Pinus ponderosa* / *Juniperus communis* Habitat Type described by Hoffman and Alexander (1987) and Hansen and Hoffman (1988) had very high basal area and densities for a woodland, possibly due to their sampling procedure. The dense structure may have affected the floristic makeup of the stands. Additionally, there is some ambiguity as to whether to call this type a forest or woodland; in increasingly dense stands, this type has >60% canopy closure.

REFERENCES

Hansen, P. L. and G. R. Hoffman. 1988. The vegetation of the Grand River/ Cedar River, Sioux, and Ashland Districts of the Custer National Forest: A habitat type classification. General Technical Report RM-157. USDA Forest Service, Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO. 68 p.

Hoffman, G. R. and R. R. Alexander. 1976. Forest vegetation of the Bighorn Mountains, Wyoming: A habitat type classification. Research Paper RM-170. USDA Forest Service, Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO. 38 p.

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Johnston, B. C. 1987. Plant associations of region two. R2-ECOL-87-2. USDA Forest Service, Rocky Mountain Region, Lakewood, CO. 429 p.

Jones, G. 1992. Wyoming plant community classification. Unpublished draft. Wyoming Natural Diversity Database, The Nature Conservancy, Laramie, WY.

McAdams, A. G., D. A. Stutzman, and D. Faber-Langendoen. 1998. Black Hills Community Inventory, unpublished data. The Nature Conservancy, Midwest Regional Office, Minneapolis, MN.

Thilenius, J. F. 1970. An isolated occurrence of limber pine (*Pinus flexilis* James) in the Black Hills of South Dakota. *American Midland Naturalist* 84(2):411-417.